Agency for Healthcare Research and Quality
Advancing Excellence in Health Care

NATIONAL QUALITY MEASURES CLEARINGHOUSE

# General

## Title

Occupational health: annual rate of work-related burn inpatient hospitalizations per 100,000 employed persons age 16 years or older.

## Source(s)

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

# Measure Domain

## Primary Measure Domain

Related Population Health Measures: Population Use of Services

## Secondary Measure Domain

Related Population Health Measure: Population Health State

# Brief Abstract

## Description

This measure is used to assess the annual rate of work-related burn inpatient hospitalizations per 100,000 employed persons age 16 years or older.

## Rationale

State health agencies, which are vested with the legal authority to require disease reporting and collect health data, play a central role in public health surveillance. Whereas public health surveillance was once focused primarily on infectious diseases, it has expanded in recent years to include surveillance of a wide range of health outcomes and their determinants, including chronic diseases, injuries and health behaviors (Halperin & Horan, 1998). National statistics on occupational injuries and illnesses have been collected largely outside of the public health infrastructure and rely almost entirely on data reported by employers. State health agencies that have access to a wide variety of public health data systems have

an important role in the surveillance of occupational diseases, injuries and hazards.

Work-related burns are some of the most devastating injuries affecting workers. Although hospitalized burns are unusual events, they are painful, disabling, and expensive to treat. Many result in significant disfigurement. In addition, burns are the most common cause of work-related hospitalization for young workers.

## Evidence for Rationale

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

Halperin W, Horan JM. Surveillance of injuries. Public Health Rep. 1998 Sep-Oct;113(5):424-6. PubMed

## Primary Health Components

Occupational injuries; work-related burn inpatient hospitalizations

## Denominator Description

Employed population 16 years or older for the same calendar year

## Numerator Description

Inpatient hospital discharges with primary diagnosis of burn injury (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] codes 940 through 949) and with primary payer coded as workers' compensation (see the related "Numerator Inclusions/Exclusions" field)

# Evidence Supporting the Measure

## Type of Evidence Supporting the Criterion of Quality for the Measure

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

## Additional Information Supporting Need for the Measure

National Institute for Occupational Safety and Health (NIOSH) has estimated that there are 150,000 work-related burns treated in the emergency rooms each year in the United State (U.S.). An estimated 30 to 40 percent of burns are work-related, with a peak incidence among younger workers, and with males affected more frequently than females. According to data from New England Regional Burn Program, 55 percent of all burns among adults are work-related (Baggs, Curwick, & Silverstein, 2002; Rossignol, Locke, & Burke, 1989).

## Evidence for Additional Information Supporting Need for the Measure

Baggs J, Curwick C, Silverstein B. Work-related burns in Washington State, 1994 to 1998. J Occup Environ Med. 2002 Jul;44(7):692-9. PubMed

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

Rossignol AM, Locke JA, Burke JF. Employment status and the frequency and causes of burn injuries in New England. J Occup Med. 1989 Sep;31(9):751-7. PubMed

## Extent of Measure Testing

In 1998, the Council of State and Territorial Epidemiologists (CSTE), in association with the National Institute for Occupational Safety and Health (NIOSH), convened the NIOSH-States Occupational Health Surveillance Work Group to make recommendations to NIOSH concerning State-based surveillance activities for the coming decade.

The Work Group recognized the need to pilot test 19 indicators to assess the feasibility of widespread implementation and to develop specific guidance on how to compute the proposed measures. In summer 2002, the five "Core" states with NIOSH Cooperative Agreements to conduct "Core Occupational Health Surveillance" (California, Massachusetts, Michigan, New York, and Washington) agreed to pilot test the indicators and to create user-friendly "how-to" guides so that other states could calculate the indicators.

Subsequent to the initial pilot testing by the five "Core" states, eight additional states (Connecticut, Maine, Nebraska, New Jersey, New Mexico, North Carolina, Oregon and Wisconsin) pilot tested the "how-to" guides. Feedback from these additional states was incorporated into the development of the final "how-to" guides for 19 indicators in November 2004.

Procedures to review, approve, and implement new indicators were developed by the Work Group. In 2013, a fourteenth health effect indicator (*Asthma among Adults Caused or Made Worse by Work*) was developed and pilot tested. The Work Group voted to adopt this as the twenty-first indicator. In 2014, a fifteenth health effect indicator (*Work-Related Severe Traumatic Injury Hospitalizations*) was developed and pilot tested. The Work Group voted to adopt this as the twenty-second indicator.

## Evidence for Extent of Measure Testing

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

# State of Use of the Measure

## State of Use

Current routine use

## Current Use

not defined yet

# Application of the Measure in its Current Use

## Measurement Setting

Hospital Inpatient

National Public Health Programs

State/Provincial Public Health Programs

## Professionals Involved in Delivery of Health Services

not defined yet

## Least Aggregated Level of Services Delivery Addressed

State/Provincial

## Statement of Acceptable Minimum Sample Size

Specified

## Target Population Age

Age greater than or equal to 16 years

## Target Population Gender

Either male or female

# National Framework for Public Health Quality

## Public Health Aims for Quality

Population-centered

Risk Reducing

Transparency

Vigilant

# National Strategy for Quality Improvement in Health Care

## National Quality Strategy Priority

National Quality Strategy Priority

# Institute of Medicine (IOM) National Health Care Quality Report Categories

## IOM Care Need

Not within an IOM Care Need

## IOM Domain

Not within an IOM Domain

# Data Collection for the Measure

## Case Finding Period

The calendar year

## Denominator Sampling Frame

Geographically defined

## Denominator (Index) Event or Characteristic

Geographic Location

Patient/Individual (Consumer) Characteristic

## Denominator Time Window

not defined yet

## Denominator Inclusions/Exclusions

Inclusions
Employed population 16 years or older for the same calendar year

Exclusions
Unspecified

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

Inclusions

Inpatient hospital discharges with primary diagnosis of burn injury (International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] codes 940 through 949) and with primary payer coded as workers' compensation

Note:

> Refer to the original measure documentation for administrative codes.
> Refer to the "How-To Guide – Indicator #6" section of the original measure documentation for instructions to calculate the annual rate of work-related burn inpatient hospitalizations per 100,000 employed persons age 16 years and older.

Exclusions

Events with age unknown, residence out-of-state, unknown state of residence, and out-of-state inpatient hospitalizations.

## Numerator Search Strategy

Institutionalization

## Data Source

Administrative clinical data

National public health data

Paper medical record

State/Province public health data

## Type of Health State

Adverse Health State

## Instruments Used and/or Associated with the Measure

National Center for Health Statistic, National Hospital Discharge Survey

# Computation of the Measure

## Measure Specifies Disaggregation

Does not apply to this measure

## Scoring

Rate/Proportion

## Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

## Allowance for Patient or Population Factors

not defined yet

## Description of Allowance for Patient or Population Factors

Other Available Data: Age, gender, race/ethnicity, and residence zip code

Recommendations: Age, gender, race/ethnicity, and zip code specific counts and rates can be used to better define the pattern of burns. Proportion of all hospitalizations due to burns in the state can be examined.

## Standard of Comparison

not defined yet

# Identifying Information

## Original Title

6.2 Annual rate of inpatient hospitalizations per 100,000 employed persons age 16 years or older.

## Measure Collection Name

Occupational Health Indicators

## Measure Set Name

Acute and Cumulative Occupational Injuries

## Submitter

Council of State and Territorial Epidemiologists - Professional Association

## Developer

Centers for Disease Control and Prevention - Federal Government Agency [U.S.]

Council of State and Territorial Epidemiologists - Professional Association

## Funding Source(s)

Centers for Disease Control and Prevention (CDC)–National Institute for Occupational Safety and Health (NIOSH) Award 2-R01 OH010094-05: Enhancing State-Based Occupational Health Surveillance Capacity

## Composition of the Group that Developed the Measure

Original Work Group Members: National Institute for Occupational Safety and Health (NIOSH)–Council of State and Territorial Epidemiologists (CSTE) Occupational Health Surveillance Work Group

Wayne Ball, Utah Department of Health
Geoffrey Calvert, NIOSH
Robert Castellan, NIOSH
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Robert Harrison, California Department of Health Services
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Kim Lim, Maine Department of Labor
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Robert Roscoe, NIOSH
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Core State Members of the Occupational Health Surveillance Pilot Project

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Current Occupational Health Indicator (OHI) and Work Group Leads

Marija Borjan, *Co-chair* (State Representative from New Jersey)
Tristan Victoroff, *Co-chair* (NIOSH Representative)
Patricia Schleiff, *Co-chair* (NIOSH Representative)
Amy Patel, *Secretary* (CSTE)
Alicia Fletcher, *OHI Lead* (State Representative from New York)

## Financial Disclosures/Other Potential Conflicts of Interest

None

## Adaptation

This measure was not adapted from another source.

## Date of Most Current Version in NQMC

2016 Mar

## Measure Maintenance

Annually

## Date of Next Anticipated Revision

Unspecified

## Measure Status

This is the current release of the measure.

This measure updates a previous version: Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists; 2014 Mar. 116 p.

## Measure Availability

Source available from the Council of State and Territorial Epidemiologists (CSTE) Web site .

For more information, contact CSTE at 2872 Woodcock Boulevard, Suite 250, Atlanta, GA 30341; Phone: 770-458-3811; Fax: 770-458-8516; Web site: https://cste.site-ym.com/ .

## NQMC Status

This NQMC summary was completed by ECRI Institute on December 1, 2014. This NQMC summary was verified by the measure developer on January 23, 2015.

This NQMC summary was updated by ECRI Institute on September 17, 2015. This NQMC summary was verified by the measure developer on October 19, 2015.

## Copyright Statement



# Production

## Source(s)

Council of State and Territorial Epidemiologists (CSTE), National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC). Occupational health indicators: a guide for tracking occupational health conditions and their determinants. Atlanta (GA): Council of State and Territorial Epidemiologists (CSTE); 2016 Mar. 145 p.

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